

ABSTRACT OF THE DISCLOSURE

A capacitor fabrication method may include forming a first capacitor electrode over a substrate and atomic layer depositing an insulative barrier layer to oxygen diffusion over the first electrode. A capacitor dielectric layer may be formed over the first electrode and a second capacitor electrode may be formed over the dielectric layer. The barrier layer may include Al_2O_3 . A capacitor fabrication method may also include forming a first capacitor electrode over a substrate, chemisorbing a layer of a first precursor at least one monolayer thick over the first electrode, and chemisorbing a layer of a second precursor at least one monolayer thick on the first precursor layer. A chemisorption product of the first and second precursors may be comprised by a layer of an insulative barrier material. The first precursor may include H_2O and the second precursor may include trimethyl aluminum.